**CLAIMS:**

What is claimed is:

1. A micro-fluid ejection assembly, comprising a silicon substrate having accurately formed fluid paths therein, the fluid paths being formed by a deep reactive ion etching process conducted on a substrate having a surface characteristic before etching selected from the group consisting of a dielectric layer thickness of no more than about 5000 Angstroms, and a substantially dielectric material free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

2. The micro-fluid ejection assembly of claim 1 wherein the surface characteristic comprises an oxide thickness of no more than about 5000 Angstroms.

3. The micro-fluid ejection assembly of claim 2 wherein the oxide thickness ranges from about 200 to about 5000 Angstroms.

4. The micro-fluid ejection assembly of claim 1 wherein the surface characteristic comprises a substantially oxide free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

5. The micro-fluid ejection assembly of claim 1 wherein the surface characteristic is adjacent to a fluid openings area of the substrate.

6. The micro-fluid ejection assembly of claim 1 wherein the dielectric layer is selected from the group consisting of silicon oxides, silicon nitrides, silicon carbides, phosphorus spin on glass, and boron doped phosphorus spin on glass.

7. An ink jet printer containing the micro-fluid ejection assembly of claim 1.

8. A substrate for an ink jet printer heater chip having accurately formed fluid openings therein, the fluid openings being formed by a deep reactive ion etching process

conducted on the substrate wherein the substrate comprises a silicon substrate having a surface characteristic before etching selected from the group consisting of an oxide layer thickness ranging from about 0 to no more than about 5000 Angstroms, and a substantially oxide free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

9. The substrate of claim 8 wherein the surface characteristic comprises an oxide thickness of no more than about 5000 Angstroms.

10. The substrate of claim 9 wherein the oxide thickness ranges from about 200 to about 5000 Angstroms.

11. The substrate of claim 8 wherein the surface characteristic comprises a substantially oxide free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

12. The substrate of claim 8 wherein the surface characteristic is adjacent to a fluid openings area of the substrate.

13. An ink jet printer containing the substrate of claim 8.

14. A micro-fluid ejection assembly comprising a silicon substrate having accurately formed reactive ion etched fluid flow features therein, the etched fluid flow features being formed by a reactive ion etching process conducted on a substrate having a surface characteristic before etching selected from the group consisting of an oxide layer thickness of no more than about 5000 Angstroms, and a substantially oxide free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

15. The micro-fluid ejection assembly of claim 14 wherein the surface characteristic comprises an oxide thickness of no more than about 5000 Angstroms.

16. The micro-fluid ejection assembly of claim 15 wherein the oxide thickness ranges from about 200 to about 5000 Angstroms.

17. The micro-fluid ejection assembly of claim 14 wherein the surface characteristic comprises a substantially oxide free pitted surface wherein a root mean square depth of surface pitting is less than about 500 Angstroms and a maximum surface pitting depth is no more than about 2500 Angstroms.

18. The micro-fluid ejection assembly of claim 14 wherein the surface characteristic is adjacent to a fluid openings area of the substrate.

19. An ink jet printer containing the micro-fluid ejection assembly of claim 14.